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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/869,653 | 02/15/2002 | Eric Kaltenbacher | 21422/04022 | 7068 |

7590 10/03/2003

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| |
|----------------|
| EXAMINER |
| DOAN, JENNIFER |
| ART UNIT |
| PAPER NUMBER |
| 2874 |

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/869,653

Applicant(s)

KALTENBACHER ET AL.

Examiner

Jennifer Doan

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9, 10, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 4-8, 11-16 and 19-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Machler (U.S. Patent 6,108,083).

Regarding claims 1-3 and 9, Machler discloses (Figs. 8a, 11, 15 and 20) a liquid core waveguide device for fluorescence spectroscopy comprising a flexible tube (101) for defining a liquid core (102) and being transmissive to light in a relatively short excitation wavelength range, the flexible tube having at least one outlet end as shown in the figures; a light coupling device connected to the outlet end of the flexible tube through which emitted light in a relative longer wavelength range can pass as shown in the figures and a first light source (131) directing light (134) in the relatively short excitation wavelength range through the walls and into the liquid core (102) of the flexible tube to excite molecular material in the core; wherein the flexible tube is configured into a coil and at least a portion of the first excitation light source is arranged in the coil (Fig. 15 and column 8, lines 23-30); further wherein the first light source is capable of generating ultraviolet light of a wavelength suitable to cause fluorescence of a material in the liquid core (column 4, lines 57-61 and column 9, lines 19-67); and wherein a light splitter (20) is provided with each light coupling device to couple the light emissions from the coupling devices on both ends of the tube and to direct the coupled light emissions to a spectroscopy for analyzing such light emissions (column 17, lines 45-57).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 10, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Machler (as cited above) in view of Rockwell, III (U.S. Patent 5,604,587).

Machler discloses (Figs. 11, 15, 20 and 21) a liquid core waveguide device for fluorescence spectroscopy comprising a flexible tube (101) having a substantially circular cross section and constant diameter as shown in fig. 15; and having an index of refraction less than the index of refraction of a liquid which is disposed in the flexible tube (column 5, lines 58-63); the coupling device comprising a housing (14, Fig. 21 and column 23, lines 30-41).

Machler discloses all the limitations of the claimed invention except for a GRIN lens provided to profile the light passing therethrough as recited in claims 10, 17 and 18. However, the GRIN lens is well known in the art as taught by Rockwell, III. Rockwell, III

teaches the GRIN lens in the abstract, lines 1-5 to focus the light beam. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Machler's device with a GRIN lens for focusing the light signals from the light source.

Allowable Subject Matter

7. Claims 4-8, 11-16 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to disclose or suggest a liquid core waveguide device comprising a support tube, ***the flexible tube being wrapped in windings about the outer surface of the support tube to form a tight coil about the support tube, wherein the light source is disposed partially within the support tube and the support tube is configured of material which is transmissive of light in the relatively shorter excitation wavelength range*** as recited in claim 4; ***a filter device*** for controlling the wavelength range of the relatively shorter wavelength excitation light which is transmitted into the flexible tube as recited in claim 5; wherein ***a GRIN lens at each light coupling device having a cylindrical profile with a circular cross sectional diameter which is greater than that of the flexible tube*** as recited in claims 11 and 19; and further wherein the waveguide comprises ***a second light source to generate broadband electromagnetic radiation and connect to the light coupling device on the end of the flexible tube opposite the output end whereby***

light from the second light source directed into the core of the flexible tube and attenuated light produced in the core as recited in claim 12.

Claims 8, 6-7, 13-16 and 20-21 are dependent on the objected claims 4, 5, 12 and 19 respectively.

Response to Arguments

8. Applicants' arguments, see pages 7-8 of the remarks, filed 07/09/2003, with respect to the rejection(s) of claim(s) 1-21 under Che et al. (U.S. Patent 5,604,587) and Stone et al. (U.S. Patent 3,770,350) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Machler (U.S. Patent 6,108,083). This action is **NOT** made final.

Conclusion

9. Applicants' arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection. This action is **not** made final.

10. Any inquiry concerning the merits of this communication should be directed to Examiner Jennifer Doan whose telephone number is (703) 308-6179. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on (703) 308-4819. The fax phone

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number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JD

JD

September 17, 2003


PHAN T. H. PALMER
PRIMARY EXAMINER